Global Industrial Refrigeration Market Size, Share, Development, Growth and Demand Forecast to 2020 - Industry Insights by Type (Evaporator Unit, Industrial Racks, Compressor, Heat Exchangers, Other Industrial Refrigeration Units)

Description:
Industrial refrigeration is extensively used for an array of industrial applications, ranging from ice making to pharmaceutical, supply chain to food processing, and others. Industrial refrigeration stereotypically plays an important role among various manufacturing facilities in the chemicals, and oil & gas industry. The industrial refrigeration system is an efficient combination of different electrical and mechanical components including compressors, heat exchangers, evaporators, racks and others. The component used for the industrial refrigeration system may be in distinct parts from more than one manufacturer. The parts such as compressor, heat exchangers, and evaporator unit are assembled under a custom engineered system by the installation service providers. The industrial refrigeration systems are assembly of large sized refrigeration equipment that has been tested under design operating condition. However, the overall practical efficiency of the industrial refrigeration may vary from the estimated theoretical value, owing to the eccentricity between the on-site operating conditions to that of test conditions.

The energy efficiency of industrial refrigeration has improved considerably, during the last five years. The innovation in product design of the industrial compressors, in addition to improvement in overall energy consumption rating, has facilitated the introduction of innovative industrial refrigeration products. Apart from superior energy efficiency, modern industrial refrigeration products also feature better temperature stability under harsh working conditions.

Unlike the western countries, the Hydrofluorocarbons (HFCs) refrigerant regulation was not so stiff in the developing countries of Asia-Pacific. In the VI BRICS summit 2014, all the five nations agreed to India's proposal of not accepting Montreal Protocol for HFCs, unless other cost-effective alternative technologies are provided by the developed countries to them. However, due to increasing international pressure to phase out HFCs in November 2014, India and China agreed for the planned phase out of the HFCs under Montreal Protocol. The joint statement issued by the governments of these two countries with the U.S. government shows an open-ended support to consider all issues regarding the phase-out of HFCs. The phase-out of HFCs in these countries is expected to lay new growth opportunities for the Industrial refrigeration market during the forecast period.

According to examined business-as-usual (BAU) scenario, the HFC emissions in China for 2013-2050 are likely to be 609 Gg. As of now, China's yearly HFC emissions are considerably higher than the other countries. China's State Council reduced HFC consumption by 280 million tons, by the end of 2015. These developments are expected to boost the adoption of natural refrigerants based industrial refrigeration products in coming years, owing to the replacement of HFC-based refrigeration application in small industries.

The concern over ozone layer depletion has been taken up very seriously by the governments worldwide. Globally, the government has adopted stringent regulations towards the use of fluorochemicals, as a refrigerant. The technology has changed in recent years from ‘F’ gas to natural refrigerant. The developed countries of Europe and North America are using ammonia, as an industrial refrigerant from a long time. However, the small and medium-sized refrigerated warehouses and food processing industries in the developing countries of Asia-Pacific have started following F-gas regulations recently, due to increasing international pressure for the adoption of Montreal Protocol.

In 2014, the government of China announced the closure of five ‘F’ gases production plants, in order to phase-out of 58,864 tons of HCFC production by 2020. The Phase-out of ‘F’ gases, as a refrigerant for industrial refrigeration in developing countries, is expected to drive the replacement of existing industrial refrigeration setup, with ammonia-based refrigeration system. This in turn is expected to drive the growth of the global industrial refrigeration market.

The technological advancement in industrial refrigeration has led to superior energy efficiency. Atlas Copco is an industrial compressor manufacturer, which launched GA VSD+, a range of oil-injected and compact
rotary screw compressors that consume 50% less power, as compared to a conventional load type compressor of the same capacity. The reduction in thermal resistance of the heat exchangers are increasing the throughput and power efficiency of industrial heat exchangers in the chemicals, and energy sector.

Asia-Pacific was the largest industrial refrigeration market in 2015 and it is expected to maintain its dominance during the forecast period. The major companies operating in the global industrial refrigeration market include Industrial Frigo S.R.L., GEA Group Aktiengesellschaft, Emerson Electric Company, BITZER KuhlMaschinenbau GmbH, Danfoss A/S, United Technologies Corporation, Star Refrigeration Ltd., Hussman Corporation, Dover Corporation, and Johnson Controls Inc.

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